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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
KNOLL, CLIFFORD H	
ART UNIT	**PAPER NUMBER**
2189	

DATE MAILED: 12/12/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/892,414	AGNE, WERNER	
	Examiner	Art Unit	
	Clifford H Knoll	2189	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 August 2002*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-6* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *6* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Specification

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-4 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, the "arranged" units are unclear because it is not clear what arrangement is contemplated. The "pass on data in a serial form" is unclear because it is not clear what relationship is intended to the recited "data lines". "The last" and "the first" of signal processing units are unclear because there is a lack of antecedent basis, and because their relationship to the recited "arrange[ment]" cannot be determined. "The stub-like data line" lacks a clear antecedent basis.

In claim 2, the "arranged" units are unclear because it is not clear what arrangement is contemplated. The "pass on data in a serial form" is unclear because it is not clear what relationship is intended to the recited "data lines". "The last" and "the

first" of signal processing units are unclear because there is a lack of antecedent basis, and because their relationship to the recited "arrange[ment]" cannot be determined.

In claim 3, "a first signal processing unit" is unclear because its relationship with "the first signal processing unit" of parent claims cannot be determined consistently.

In claim 4, the "substitute distributor node" and "annular communication structure" are unclear because it is not clear what relationship is intended to the data transmission system.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-5 are rejected under 35 U.S.C. 102(e) as being anticipated by Burns (US 6047222).

Regarding claim 1, Burns discloses a central data line having branch off stub-like data lines (e.g., col.19, lines 1-7) in which signal processing units are arranged (e.g., col.19, lines 31-35), transmitting and receiving elements which pass on serial data (e.g., col.20, lines 4-7), wherein a return from the last to the first signal processing unit is provided (e.g., col.19, lines 32-37, "first bridge 134", "second bridge 140").

Regarding claim 2, Burns discloses a central data line having branch off stub-like data lines (e.g., col.19, lines 1-7) in which signal processing units are arranged, transmitting and receiving elements which pass on serial data (e.g., col.20, lines 4-7), wherein a return from the last to the first signal processing unit of the central data line is provided (e.g., col.19, lines 26-27, "primary loop or bus 112").

Regarding claim 3, Burns also discloses the first signal processing unit is designed as a distributor node having a group control function (e.g., col.19, lines 32-37, "first bridge 134", line 25, "controller 106").

Regarding claim 4, Burns also discloses a substitute distributor node incorporated in an annular communication structure (e.g., col.19, lines 34-39, "second bridge 140 by a redundant connection")

Regarding claim 5, Burns also discloses the field bus as the data transmission system (e.g., col.19, line 56).

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-5 rejected under 35 U.S.C. 102(b) as being anticipated by Judd (US 5687391).

Regarding claim 1, Judd discloses a central data line having branch off stub-like data lines (e.g., col.6, lines 14-20) in which signal processing units are arranged,

transmitting and receiving elements which pass on serial data (e.g., col.6, lines 65-67), wherein a return from the last to the first signal processing unit is provided (e.g., col.6, lines 58-59).

Regarding claim 2, Judd discloses a central data line having branch off stub-like data lines (e.g., col.19, lines 1-7) in which signal processing units are arranged, transmitting and receiving elements which pass on serial data (e.g., col.20, lines 4-7), wherein a return from the last to the first signal processing unit of the central data line is provided (e.g., col.3, lines 30-34).

Regarding claim 3, Judd also discloses the first signal processing unit is designed as a distributor node having a group control function (e.g.,col.4, lines 65-67).

Regarding claim 4, Judd also discloses a substitute distributor node incorporated in an annular communication structure (e.g., col.6, lines 14-19)

Regarding claim 5, Judd also discloses the field bus as the data transmission system (e.g., col.5, lines 1-7).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claim 6 rejected under 35 U.S.C. 103(a) as being unpatentable over Burns in view of Pye ("Which field bus do you go for?").

Regarding claim 6, Burns also discloses his invention as being applicable for a wide variety of two-wire data transmission systems (e.g., col.19, lines 51-62), but neglects to mention the Ethernet as the data transmission system. Pye discloses this feature. Pye discloses the Ethernet transmission system. A person would be motivated to combine Pye with Burns, because Pye teaches the advantages (e.g., "ideally positioned", p. 27) to choosing Ethernet as the two-wire data transmission system in a factory field bus system, such as the system that Burns discloses. Therefore, it would be obvious to one of ordinary skill in the art to combine Pye with Burns at the time the invention was made.

6. Claims 1-5 rejected under 35 U.S.C. 103(a) as being obvious over Schreiter (US 5598149) in view of Flaschka (US 6640276).

The applied references both have a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the

application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). For applications filed on or after November 29, 1999, this rejection might also be overcome by showing that the subject matter of the reference and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person. See MPEP § 706.02(l)(1) and § 706.02(l)(2).

Regarding claim 1, Schreiter discloses a central data line with stub-like data lines in which signal processing units are arranged (Figure 1). Schreiter does not disclose the return from the last to the first signal processing unit of the stub-like data line; however Flaschka discloses this feature. Flaschka discloses transmitting and receiving elements that pass on data in a serial form wherein a return from the last to the first signal processing unit of the stub-like data line is provided (e.g., Figure 1, "coupling module 8"). It would be obvious to combine Flaschka with Schreiter because Flaschka teaches as an improvement over the standard bus system ("SIMATIC NET", col.1, lines 20-36) disclosed by Schreiter. Flaschka teaches the advantages of using a return to provide a level of redundancy in a bus with a possible fault. Therefore it would be obvious to one of ordinary skill in the art to combine Flaschka with Schreiter at the time the invention was made.

Regarding claim 2, Schreiter discloses a central data line with stub-like data lines in which signal processing units are arranged (Figure 1). Schreiter does not disclose the return from the last to the first signal processing unit of the stub-like data line; however Flaschka discloses this feature. Flaschka discloses transmitting and receiving

elements that pass on data in a serial form wherein a return from the last to the first signal processing unit of the central data line is provided (e.g., Figure 1, "coupling module 8"). It would be obvious to combine Flaschka with Schreiter because Flaschka teaches as an improvement in one link of the standard bus system ("SIMATIC NET", col.1, lines 20-36) disclosed by Schreiter. Flaschka teaches the advantages of using a return to provide a level of redundancy in a bus with a possible fault. Therefore it would be obvious to one of ordinary skill in the art to combine Flaschka with Schreiter at the time the invention was made.

Regarding claim 3, Flaschka also discloses a distributor node having a group control function (e.g., col.2, lines 44-47).

Regarding claim 4, Flaschka also discloses a substitute distributor node incorporated into an annular communication structure (e.g., col.2, lines 44-47).

Regarding claim 5, Schreiter also discloses a field bus system (e.g., col.4, lines 45-55).

7. Claim 6 rejected under 35 U.S.C. 103(a) as being unpatentable over Schreiter (US 5598149) and Flaschka (US 6640276) as applied to claims 1 and 2 above, and further in view of Pye.

Regarding claim 6, Schreiter does not disclose the particular embodiment of an Ethernet; however the use of Ethernet as a field bus embodiment is well known as exemplified by Pye. Pye discloses the Ethernet transmission system. A person would be motivated to combine Pye with Burns, because Pye teaches the advantages (e.g.,

"ideally positioned", p. 27) to choosing Ethernet as the two-wire data transmission system in a factory system, such as the system that Burns discloses. Therefore, it would be obvious to one of ordinary skill in the art to combine Pye with Burns at the time the invention was made.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Clifford H Knoll whose telephone number is 703-305-8656. The examiner can normally be reached on M-F 0630-1500.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark H Rinehart can be reached on 703-305-4815. The fax phone number for the organization where this application or proceeding is assigned is 703-746-7239.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-2100.

XUAN M. THAI
PRIMARY EXAMINER
TC2100

chk